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New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources Wildlife Pathology Unit 108 Game Farm Road, Delmar, NY 12054



MEMORANDUM

TO:

ECO Harry Young

FROM:

Ward Stone, Wildlife Pathologist

SUBJECT:

Striped Skunk (Log #98-15-27) and Gray Fox (Log #:98-15-28)

DATE:

April 22, 1998

The following is a summary of history and findings for these cases.

History: The skunk and gray fox were found dead by yourself on March 30, 1998 from locations adjacent to the Richardson Hill Toxic Waste Site, Masonville (Delaware County), New York. In the same area 2 dogs, I cats, and I opossum had also died recently. The skunk and gray fox were submitted to the Wildlife Pathology Unit on March 30, 1998 and the necropsies were performed the same day.

Findings:

Skunk (98-15-27): This was an adult, female, skunk, in good flesh (1.57 kg) with abundant fat reserves. A small laceration was present under the chin. There were no fractures. The skeletal musculature appeared pale. Areas of hemorrhage were present in the lungs. The uterus contained 4 fetuses and the amniotic fluid was blood-tinged. The urine in the urinary bladder was bloody. Hemorrhage had occurred in the small intestine. The skunk carcass was fresh and showed little evidence of autolysis. The stomach contained small mammal fur and small bird feathers.

The necropsy suggested poisoning with an anticoagulant rodenticide. However, since skunks are a rabies-vector species, a rabies test was ordered on the skunks brain. When the New York State Department of Health rabies test was negative for rabies, the liver was then sent to the chemist at the Illinois Department of Agriculture's Animal Disease Laboratory for anticoagulant screen.

 $\underline{\text{Toxicology}}$ (See attached lab report!: The anticoagulant Brodifacoum was found at 0.3 ppm in the skunk.

Diagnosis: Death due to Brodifacoum poisoning.

<u>gray Fox (98-15-28)</u>: An adult, male, gray fox (3.25 kg), in fair flesh, with no visible fat. No fractures or signs of trauma. The lungs were hemorrhagic and bloody fluid was present in the thorax. Hemorrhage was present in the musculature on the left side of the rib cage. The musculature was pale. The stomach contained a piece of small mammal skin with attached hair. The gray fox had been dead for a number of days (estimate about a week), and autolysis was well underway.

A test for rabies was negative on the gray fox. The liver was sent to the Illinois Department of Agriculture's Animal Disease Laboratory for anticoagulant screen.

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<u>Toxicology</u>: (See attached lab report): Brodifacoum was found at 0.02 ppm in the liver of the gray fox.

<u>Diagnosis:</u> Poisoning with the anticoagulant rodenticide Brodifacoum.

<u>Comments</u>: The level of toxicant is probably lower in the gray fox because of loss of toxicant during the decay process. Someone probably has been putting out Brodifacoum for rodent control and animals like dogs, cats, opossums, skunks and gray foxes are being secondarily poisoned. However, Brodifacoum is sometimes misused and placed in meat baits that are attractive to the above species. My guess is that secondary poisoning from rodents poisoned with Brodifacoum is the most likely scenario.

I have reviewed the pathological diagnosis report you provided on April 15, 1998 on the cat. Since a thorough necropsy and no toxicology is provided a definitive diagnosis can not be made. However, the histopathological findings of liver and kidney hemorrhage may well be due to an anticoagulant rodenticide. If liver tissue was frozen, it should be tested for Brodifacoum.

We are interested in other wildlife mortalities you may find on or near the toxic waste site. It would not be surprising to see mortalities occur in other rodent consumers such as owls and red-tailed hawks.

If you have further questions, I can be reached at (518) 478-3032.

Ward B. 5 time Wildlife Pathologist

Encl. WBS:rd

co:__ C. Prassard (USEPA)

A. Johnsen

L. Skinner

T. Sinnot

Toxicant Cases Binder

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Bureau of Animal Disease Laboratory

ANIMAL DISEASE LABORATORY 9732 SHATTUC ROAD CENTRALIA, ILLINOIS 62801

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TOXICOLOGY DEPARTMENT REPORT

VETERINARIAN

OWNER

NEW YORK WILDLIFE 108 GAME PARM RD DELMAR NY 12054 NEW YORK WILDLIFE 98-15-27

ACCESSION NUMBER: 9800011313 DATE DATE

REPORTED: 04/16/1998 RECEIVED: 04/08/1998

SPECIMEN

SPECIES: SKUNK

RECEIVED, SKUN

SKUNK LIVER 98-15-27

REQUESTED: ANTICOAGULANTS RESULTS:

TEST

BRODIFACOUM - 0.3 PPM

OTHER ANTICOGULAN'S - NONE DETECTED

THE FOLLOWING TOXINS ARE INCLUDED IN THE ANTICOAGULANT SCREEN

Fumarin
Racumin
Warfarin
Coumachlor
Difenacoum
Brodifacoum
Diphacinone
Pindone

Valone

Chlorophacinone Bromadiolone 4-OH Warfarin 6-OH Warfarin 7-OH Warfarin 8-OH Warfarin

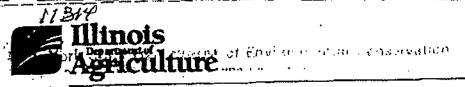
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CHEMIST

APPROVED

LABORATORY

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Bureau of Animal Disease Laboratory

ANIMAL DISEASE LABORATORY 9732 SHATTUC ROAD CENTRALIA, ILLINOIS 62801

TOXICOLOGY DEPARTMENT REPORT

VETERINARIAN

OWNER

NEW YORK WILDLIFB 108 GAME FARM RD DELMAR NY 12054 WEW YORK WILDLIFE 98-15-28

ACCESSION NUMBER: 9800011314 DATE DATE REPORTED: 04/16/1998 RECEIVED: 04/08/1199

SPECIES

SPECIMEN RECEIVED:

GRAY FOX LIVER 98-15-28

TEST

REQUESTED: ANTICOAGULANTS

RESULTS:

BRODIFACOUM - 0.02 PPM

OTPER ANTICOAGULANTS - NONE DETECTED

THE FOLLOWING TOXINS ARE INCLUDED IN THE ANTICOAGULANT SCREEN ..

Fumarin
Racumin
Warfarin
Coumachior
Difenacoum
Brodifacoum
Diphacinone
Pindone

Valone

Chlorophacinone Bromadiolone 4-OH Warfarin 6-OH Warfarin 7-OH Warfarin 8-OH Warfarin

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D. REYNOLDS